

Application No.: 10/586,173  
Response Dated: February 16, 2011  
Reply to Office Action of: January 20, 2011

MAT-8856US

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application No: 10/586,173  
Applicants: Hirotaka KAWABATA et al.  
Filed: July 17, 2006  
Title: REFRIGERANT COMPRESSOR  
T.C./A.U.: 3746  
Examiner: Christopher S. Bobish  
Confirmation No.: 2828  
Docket No.: MAT-8856US

**RESPONSE TO**  
**NOTICE OF NON-COMPLIANT AMENDMENT**

**MAIL STOP AMENDMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Responsive to the Office Action dated **January 20, 2011**, please enter the following in the above-identified application:

- ☐ **Amendments to the Specification** begin on page \_\_\_\_\_ of this paper.
- ☐ **Amendments to the Claims** are reflected in the listing of claims which begins on page \_\_\_\_\_ of this paper.
- ☐ **Amendments to the Drawings** begin on page \_\_\_\_\_ of this paper and include an attached replacement sheet(s).
- ☐ **Amendments to the Abstract** are on page \_\_\_\_\_ of this paper. A clean version of the Abstract is on page \_\_\_\_\_ of this paper.
- ☒ **Remarks/Arguments** begin on page **2** of this paper.

**Remarks/Arguments:**

The Office Action mailed January 20, 2011, sets forth a Notice of Non-Compliant Amendment in which the Response previously submitted on June 4, 2010, was deemed not fully responsive to the prior Office Action containing a Request for Information under 37 CFR § 1.105. The reasons why this Notice was issued are set forth on the Continuation Sheet included as part of the Notice.

Applicants and assignee hereby respond to the Notice as follows:

The Notice states that "Further clarification regarding the specific properties of the oils, both individually and as a blended oil, are requested." The individual types of oil listed in the prior Response (for example, mineral oils, polyol ester oils, alkylbenzene oils, etc.) are generic classes of substances which include different specific compounds or mixtures of compounds. For example, mineral oils do not all have the same set of properties. Instead, their properties such as the fraction having a boiling point above a certain temperature or below a certain temperature as well as their viscosity will vary depending upon, for example, the molecular weight distribution of the mineral oil and its chemical composition (structure). For this reason, applicants and assignee do not believe it is possible to respond to the Examiner's request to provide the "specific properties" of each type of oil.

In response to the Examiner's comment that "it is not clear which type of oil is used for each component," applicants and assignee hereby state their belief any type of oil could, in principle, be used for either the first component oil or the second component oil. What is important, for purposes of the claimed invention, is to select a first component oil that contains at least 10% but not more than 30% by volume of a fraction (component) having a boiling point of at least 350°C and to blend the first component oil with a second component oil that contains at least 50% but not more than 70% by volume of a fraction (component) having a boiling point of 300°C or less. Additionally, the first and second component oils are selected to provide a blended oil having a viscosity in the range of from ISO VG3 to ISO VG8. Among other reasons, the present invention is believed to be novel in that the blended oil has a viscosity as low as ISO VG 3 to no more than ISO VG 8. Ordinarily, the viscosity of a general lubricating oil employed in a refrigerant compressor is much higher. A very low viscosity oil that fulfills

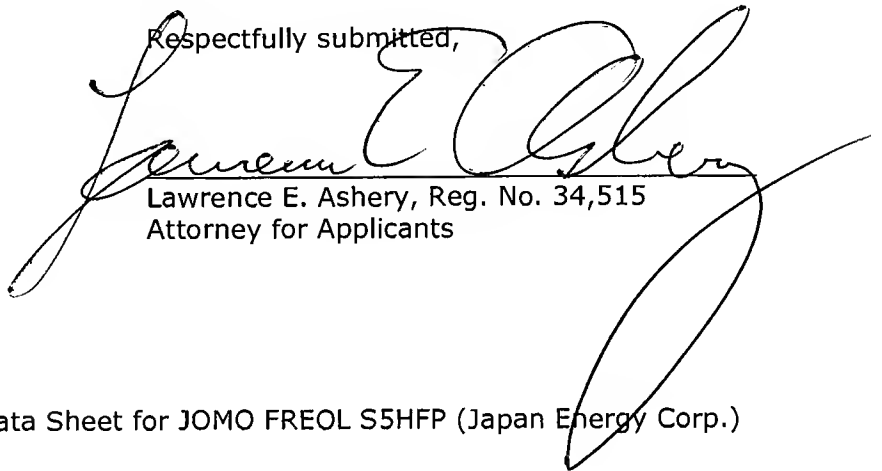
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the performance requirements of a refrigerant compressor is, however, met by a blended oil having the characteristics set forth in the pending claims.

The Examiner has further requested that "[i]f the oils are known in the art, any names that the oils are marketed or sold under are requested." Attached hereto is the Material Safety Data Sheet (MSDS) for JOMO FREOL S5HFP (manufactured by Japan Energy Corporation), which is a relatively new oil that meets the limitations set forth in the pending claims of the present application.

Respectfully submitted,

A large, stylized handwritten signature in black ink, appearing to read 'Lawrence E. Ashery', is written over a horizontal line. The signature is fluid and cursive, with a long, sweeping tail that extends downwards and to the right.

Lawrence E. Ashery, Reg. No. 34,515  
Attorney for Applicants

SDH/fp

Dated: February 16, 2011

Enclosure: Material Safety Data Sheet for JOMO FREOL S5HFP (Japan Energy Corp.)

P.O. Box 980  
Valley Forge, PA 19482  
(610) 407-0700

SDH\_1174788

# MATERIAL SAFETY DATA SHEET

Required under OSHA'S Hazard Communication Standard 29CFR1910-1200

IDENTITY (As used on Label and list)  
JOMO FREOL S5HFP

## Section I

Manufacture's Name  
JAPAN ENERGY CORPORATION  
Address  
10-1, Toranomom 2-chome,  
Minato-ku, Tokyo 105-8407, Japan

Telephone Number for information  
03-5573-6520(Japan)  
Date Prepared  
21th December, 2009

## Section II - Hazardous Ingredients / Identity Information

Hazardous Components (Specific Chemical Identity, Common Name)  
No hazardous materials present.

CHEMICAL NAME:	Lubricating Oil (Petroleum Hydrocarbons And Additives)		
COMPONENT :	Lubricating base oil	>99mass%	
	Lubricating oil additive	<1mass%	

OSHA PEL ACGIH TLV

## Section III - Physical Characteristics

Boiling Point	Not applicable	Specific Gravity(H <sub>2</sub> O=1)	0.85g/cm <sup>3</sup> (15°C)
Vapor Pressure (mmHg)	Not applicable	Melting Point (Pour point)	-30.0°C
Vapor Density (AIR=1)	Not applicable	Evaporation Rate	Not applicable
Solubility in water	Insoluble	(Butyl Acetate=1)	
Appearance and Odor	Light yellow, clear mobile liquid.		

## Section IV - Fire and Explosion Hazard Data

Flash Point(Method Used) >120°C(COC)  
Flammable limits LEL 1.0% UEL 7.0%  
Extinguishing Media

Foam, dry chemical, carbon dioxide.

Special Fire Fighting Procedures  
No

Unusual Fire and Explosion Hazards

Not in particular. Normal protective measures for organic chemical products with flash points of above 100°C.

## Section V - Reactivity Data

Stability Stable

Incompatibility (Materials to Avoid)  
No

Hazardous Decomposition or Byproducts  
No

Hazardous Polymerization  
Will not occur

## Section VI - Health Hazard Data

### Route(s) of Entry

No significant health hazards are identified. Prolonged repeated skin contact may cause irritation and dermatitis.

### Health Hazards (Acute and Chronic)

No significant health hazards are identified. Prolonged repeated skin contact may cause irritation and dermatitis.

### Carcinogenicity

NTP  
No

IARC Monographs  
No

OSHA Regulated  
No

### Signs and Symptoms of Exposure

No information is available.

### Medical Conditions Generally Aggravated by Exposure

No information is available.

Skin Contact : Wash material off the skin with copious amounts of water and soap.

Eyes Contact : Immediately flush with plenty of water for at least 15 minutes.

Inhalation : Remove exposed person to fresh air.

Ingestion : Do not induce vomiting. Call a physician immediately/

## Section VII - Precautions for Safe Handling and Use

### Steps to be taken in Case Material is Released or Spilled

Prevent spillage from spreading by using sand and absorb the liquid substance using a suitable inert material.

Transfer to a suitably labeled. Suitable container. Do not allow liquid to enter open waters or ground water.

### Water Disposal Method

Waste material may be incinerated under conditions which meet all Federal, state and local environmental control regulations.

### Precautions to be taken in Handling and Storing

Store in cool, dark and low humidity place.

### Other Precautions

Avoid repeated skin contact and breathing of mist or vapor.

## Section VIII-Control Measures

### Respiratory Protection

Under normal conditions, respirator is not usually required.

### Ventilation Local Exhaust

Not required

Mechanical (General) Not required

### Special

Adequate ventilation should be maintained when handling heated products.

Protective Gloves Rubber Gloves

Eye Protection Glasses or Goggles

Other Protective Clothing or Equipment Not required

Work/Hygiene Practices Not required

## Section IX-Additional Information

The information contained herein has been compiled from data published in the literature. This data is believed to be reliable, but certain values may vary from source to source.

This data is not to be construed as absolutely complete. It is the responsibility of the user to determine the best precautions necessary for his/her application.

This data only refers to the specific material designated and not to any combinations.